EXHIBIT D

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

VIRGINIA ELIZONDO

Plaintiff,

v.

SPRING BRANCH INDEPENT SCHOOL DISTRICT, CHRIS GONZALEZ,
PAM GOODSON, KAREN PECK, JOSEF D. KLAM, MINDA CAESAR, CHRIS EARNEST,
J. CARTER BREED, in their official capacity as members of the Board of Trustees of
Spring Branch ISD

Defendants.

SUPPLEMENT TO EXPERT REPORT
OF
Robert M. Stein, Ph.D.

March 28, 2022

In this supplement to my January 20, 2022 expert report I present an election-by-election analysis of racially-polarized voting in the Spring Branch Independent School District's trustee elections using ecological inference (EI) statistical techniques. Analyses of racially-polarized voting was conducted for all contested and uncontested trustee elections. In the case of uncontested elections the under vote in these contests is measured against the vote for the unopposed candidate.

Ecological inference is a statistical technique using precinct election data and either voter history files by precinct or Census demographic data by precinct to construct individual voting behavior from aggregate data. The method accounts for racial variation in voting behavior by precinct to arrive at the most likely point estimate that shares of each racial/ethnic group give to each candidate (King 1997).

The EI analysis depicts several features not stated in my January 20, 2022 expert report, including:

- Separate analyses of each trustee election in 2015, 2017, 2018, 2019 and 2021.
- Correlations between candidate vote and number of voters by race and ethnicity.
- Mean estimated proportion of vote for each candidate by race/ethnicity.
- Statistical tests for racially-polarized voting in each trustee election.

The results of the EI analysis of racially-polarized confirm my conclusion that:

- There is statistically significant evidence of racially-polarized voting in the Spring Branch Independent District's Board of Trustees elections for the period 2015-2021.
- White Non-Hispanics vote sufficiently as a bloc to enable them, in the absence of special circumstances (e.g., single-member districts), to defeat the minority voters' preferred candidates of choice.

2015 SBISD Trustee Elections

In 2015 there were two trustee elections in which four candidates vied for two seats on the SBISD Board of Trustees. Elizondo and Vierra contested for one of the two seats and Dawson and Adams competed for the other seat.

The descriptive analysis, correlations and estimated proportion of vote for each candidate by the race/ethnicity of voters confirm significant racially-polarized voting among Hispanic and White voters in both elections. On average the share of White vote received by Vierra was 85.9% compared to 13.4% for Elizondo. The share of Hispanic vote for the same pair of candidates was 92% for Elizondo and 1% for Vierra.

In the Dawson/Adams contest, I observed the same polarized voting among Whites and Hispanics. Dawson's average share of White vote was 87.7% and 1.3% share of Hispanic vote cast. Conversely, Adams' share of the Hispanic vote was 98% and his share of the White vote was 12.1%. The confidence intervals for these findings shows the estimated proportions are reliable and significant.

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2015 Spring Branch Ecological Inference Report
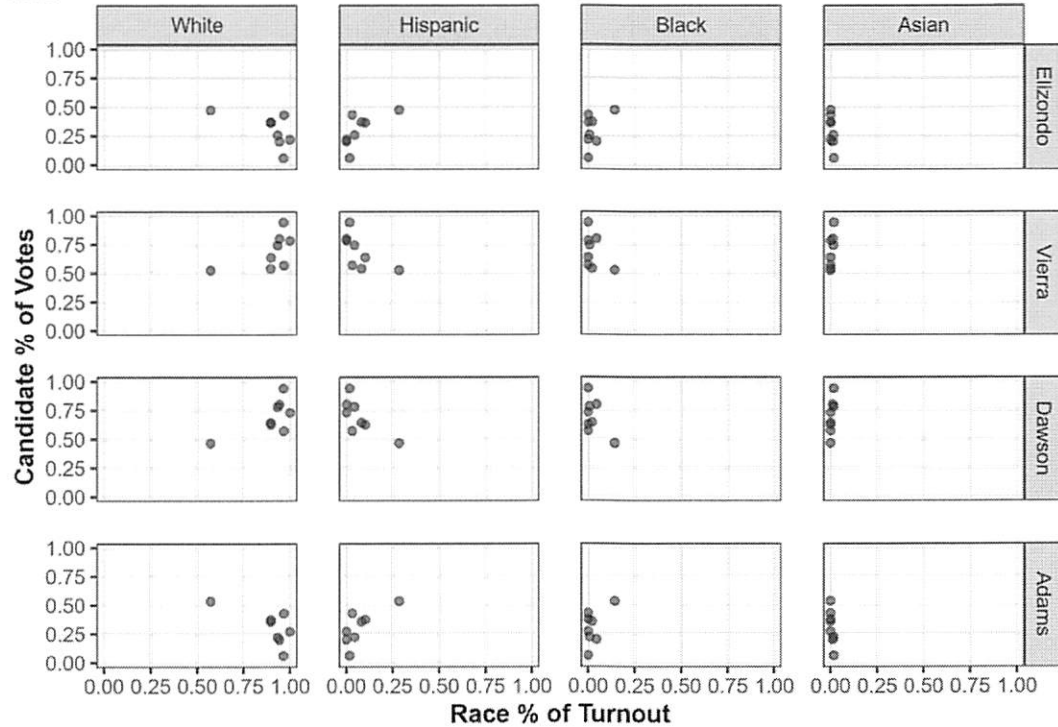
Descriptive Analyses

Visual

Correlation

Table 1: Correlation Between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Elizondo	-0.5974	0.6811	0.4656	-0.7831
Vierra	0.5572	-0.6461	-0.4228	0.7912
Dawson	0.6658	-0.7393	-0.5517	0.8408
Adams	-0.6658	0.7393	0.5517	-0.8408

Ecological Inference

Table 2: Estimated Proportion White Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	13.46	0.14	13.22	13.79
Vierra	85.91	0.20	85.54	86.33
Dawson	87.71	0.39	86.73	88.12
Adams	12.12	0.20	11.80	12.47

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

|	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	92.03	8.12	72.90	99.90
Vierra	1.06	1.06	0.00	3.61
Dawson	1.35	2.42	0.00	7.13
Adams	98.20	2.85	90.48	99.96

Visual
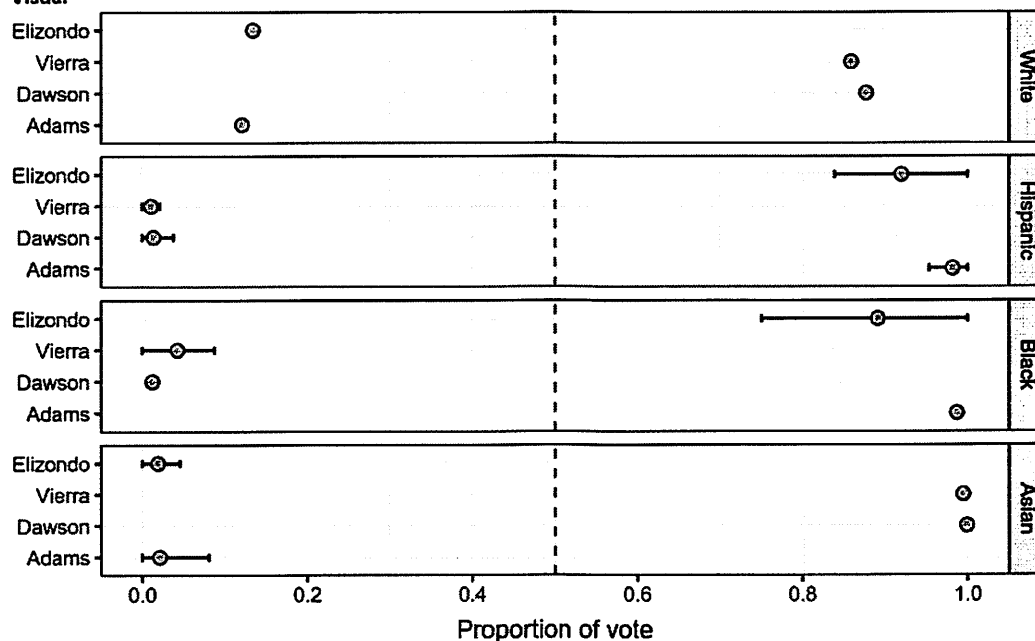
2017 SBISD Trustee Election

Mettenbrink and Gonzalez contested for one seat on the SBISD board in 2017. The contest between Mettenbrink and Gonzalez does not reflect significant evidence of racially-polarized voting. The EI analysis shows Gonzalez, the incumbent, garnered a majority of support from both White (74.5%) and Hispanic voters (90.8%). The difference in White voter support versus Hispanic voter support for Gonzalez, however, is 16.3 percentage points, a significant margin but not sufficient to demonstrate that non-Hispanic Whites voted as a block to defeat the Hispanic candidate of choice, Gonzalez.

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2017 Spring Branch Ecological Inference Report
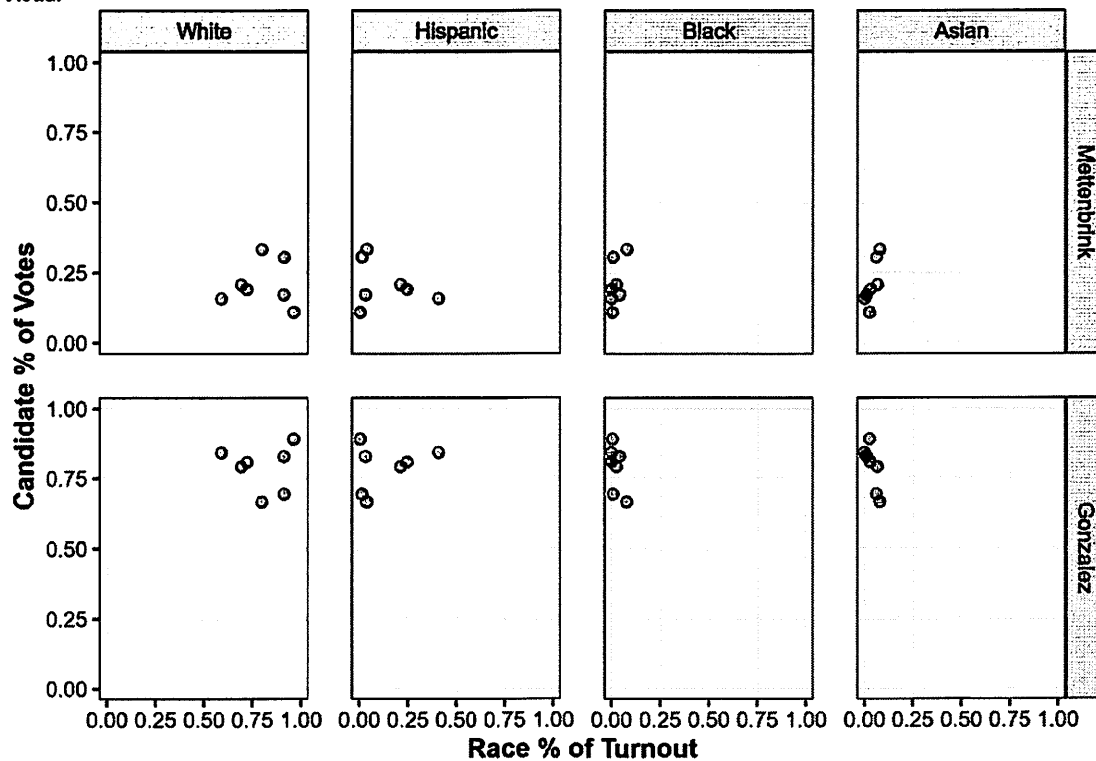
Descriptive Analyses

Visual

Correlation

Table 1: Correlation Between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Mettenbrink	0.0405	-0.3029	0.5809	0.7999
Gonzalez	-0.0405	0.3029	-0.5809	-0.7999

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Ecological Inference

Table 2: Estimated Proportion White Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Mettenbrink	25.34	0.55	23.76	26.46
Gonzalez	74.56	0.41	73.76	75.95

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Mettenbrink	8.84	2.35	4.88	14.43
Gonzalez	90.85	2.74	85.30	97.58

Visual
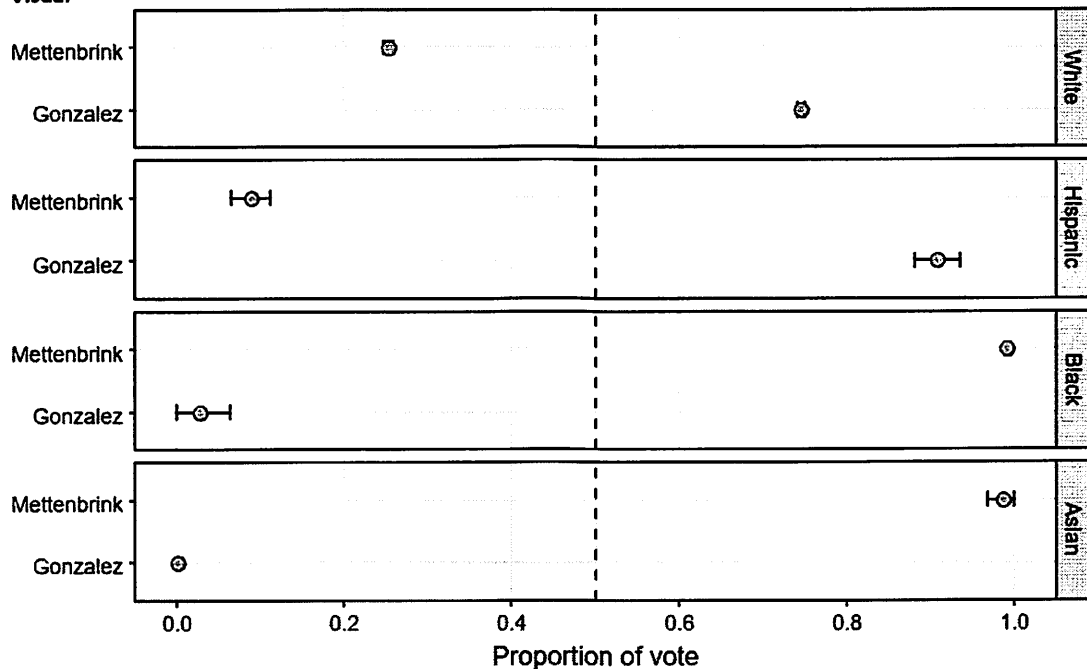
2018 SBISD Trustee Election

Two trustee positions were on the 2018 ballot, but only one position was contested. The contested election featured Caesar and Lezama. The second contest featured the uncontested re-election of Vierra. Evidence of racially-polarized voting is evident in the Caesar and Lezama election. The Vierra re-election exhibits weak evidence of racially-polarized voting.

The descriptive plots and correlations for Caesar's and Lezama's respective shares of White and Hispanic vote show that their support significantly diverges with White and Hispanic voters. Casear's vote share is positively related (.80) to the share of White vote in each precinct and negatively (-.76) related to the share of Hispanic vote in each precinct. Conversely, Lezama's vote share is positively related to the share of Hispanic vote in each precinct (.77) and negatively related the share of White vote (-.82) in each precinct.

The EI estimates of the mean proportion of White and Hispanic vote for each candidate further underscore the racially-polarized voting in this election. Caesar and Lezama received 54% and 35% of the White vote respectively and 9% and 99% of the Hispanic vote respectively. The confidence intervals show these differences to be significant.

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2018 Spring Branch Ecological Inference Report
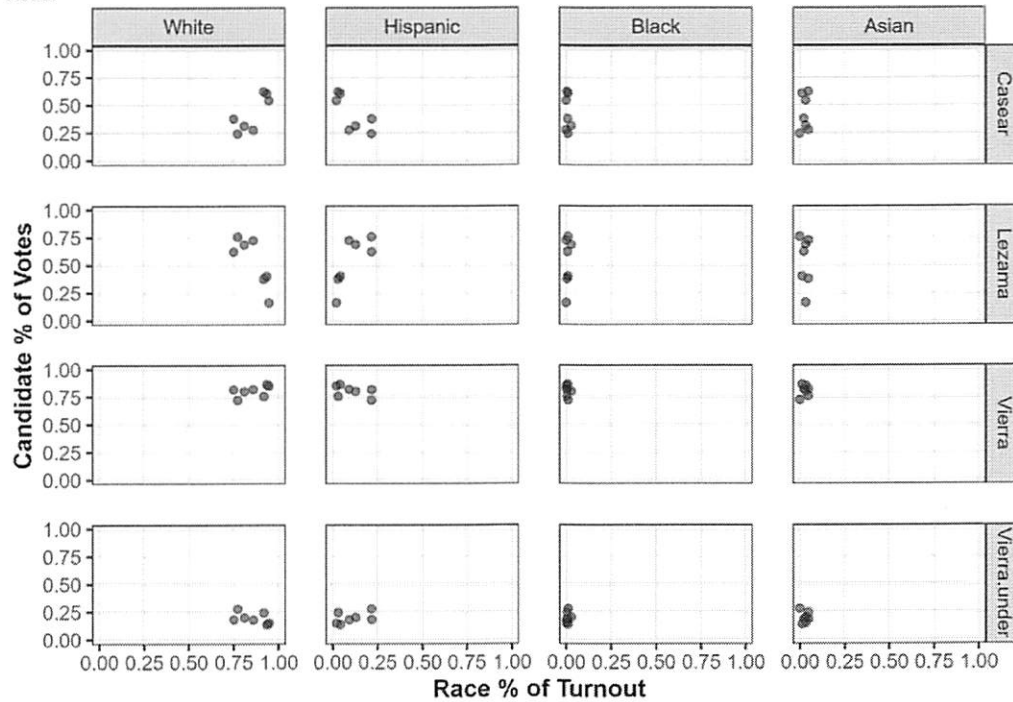
Descriptive Analyses

Visual

Correlation

Table 1: Correlation Between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Casear	0.8009	-0.7661	-0.3021	0.2021
Lezama	-0.8234	0.7757	0.4121	-0.2073
Vierra	0.4737	-0.4677	-0.1454	0.1716
Vierra.under	-0.4737	0.4677	0.1454	-0.1716

Ecological Inference

Table 2: Estimated Proportion White Vote for Each Candidate				
	Mean	Standard Deviation	95% Lower CI	95% High CI
Casear	54.10	0.70	52.55	54.70
Lezama	35.13	0.03	35.08	35.22
Vierra	84.25	0.70	82.44	85.72
Vierra.under	16.11	1.60	12.35	18.85

Table 3: Estimated Proportion Hispanic Vote for Each Candidate				
	Mean	Standard Deviation	95% Lower CI	95% High CI
Casear	9.42	7.49	0.04	24.88
Lezama	99.01	0.31	98.45	99.52
Vierra	50.30	9.43	31.93	67.84
Vierra.under	51.20	9.23	32.13	67.91

Visual
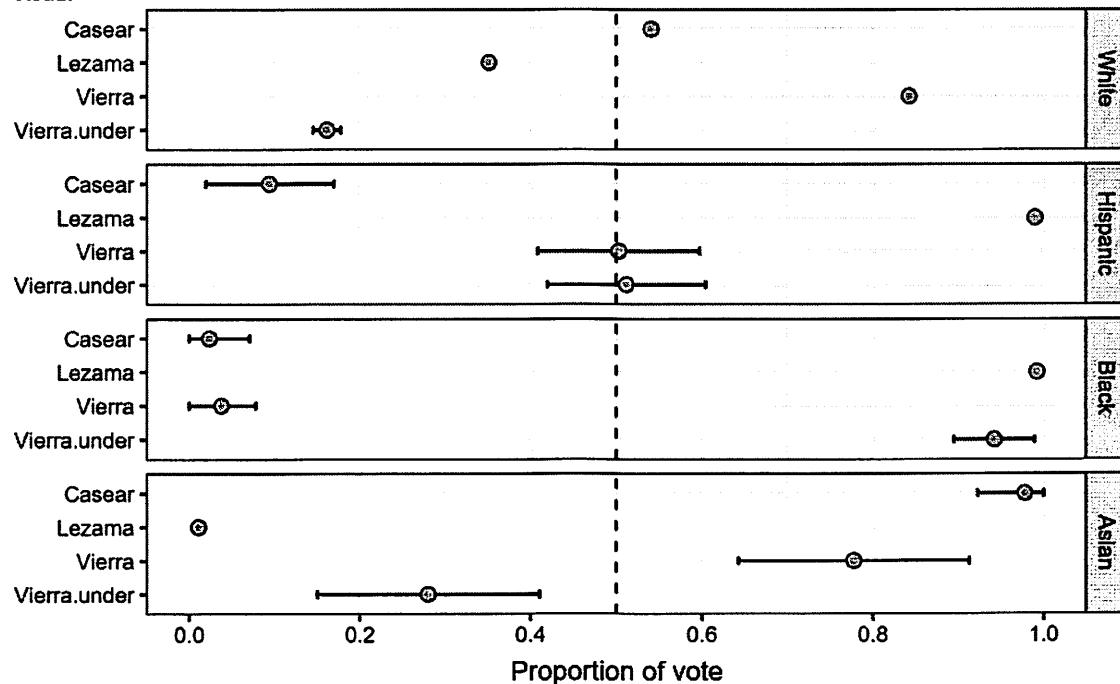
2019 SBISD Trustee Elections

One trustee seat was contested in 2019 with two candidates, Lopez and Breed. Two other Trustees, Peck and Goodson, ran unopposed for re-election. The descriptive plots and correlations for the Lopez and Breed election show substantial racial polarization between the vote for both candidates among White and Hispanic voters. Vote shares for the two uncontested trustee elections show weak

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evidence of racially-polarized voting when the under vote in these two elections is measured against the vote for the two uncontested candidates.

The share of vote cast for Breed was positively related (.68) to the share of White vote in each precinct and negatively related to the share of Hispanic vote in each precinct (-.84). Conversely, Lopez's share of vote is positively related to the share of Hispanic vote in each precinct (.84) and negatively related to the share of White vote in each precinct (-.68).

The EI estimates of the mean proportion of White and Hispanic vote for each candidate are skewed. Lopez received a 24.7% mean share of the White vote while garnering a 98% mean share of the Hispanic vote. Breed received a 75% mean share of the White vote and mean share of less than 2% of the Hispanic vote.

2019 Spring Branch Ecological Inference Report

Lopez vs. Breed

Descriptive Analyses
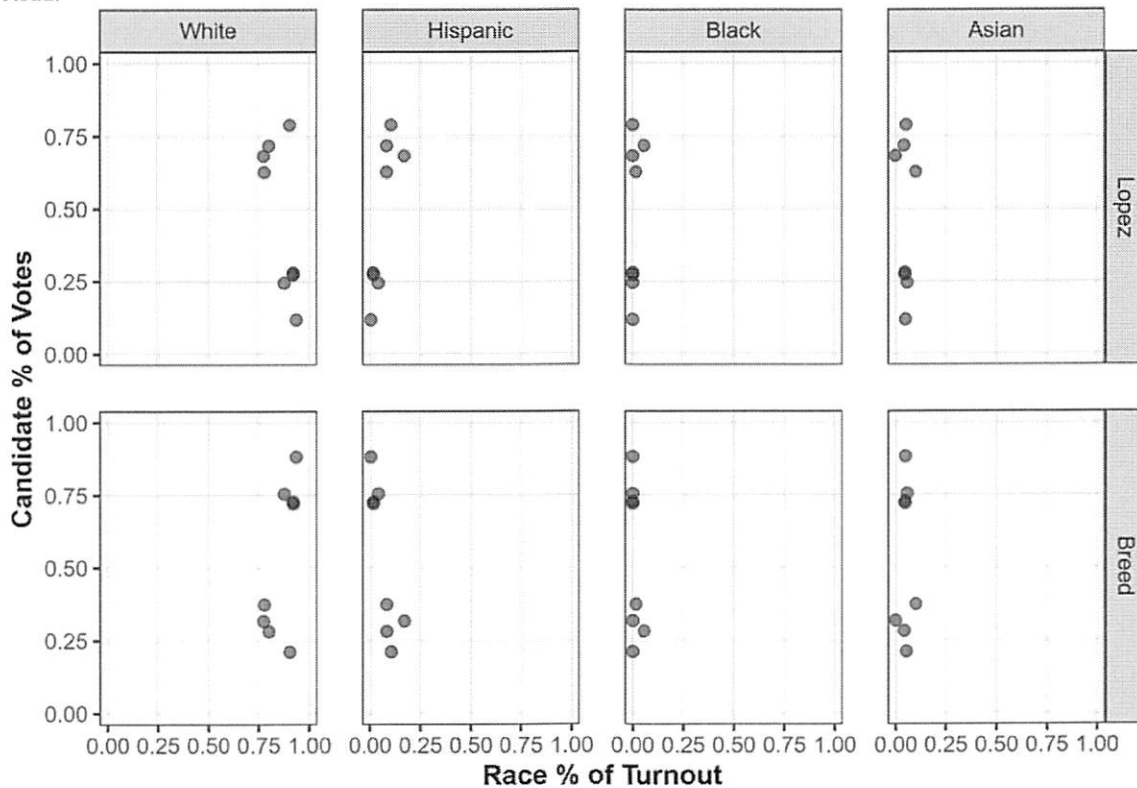
Visual

Correlation

Table 1: Correlation Between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Lopez	-0.6824	0.8465	0.4598	-0.0757
Breed	0.6824	-0.8465	-0.4598	0.0757

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Ecological Inference

Table 2: Estimated Proportion White Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Lopez	24.72	0.05	24.63	24.81
Breed	75.24	0.06	75.13	75.35

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Lopez	98.14	0.38	97.33	98.84
Breed	1.68	2.78	0.13	10.68

Visual
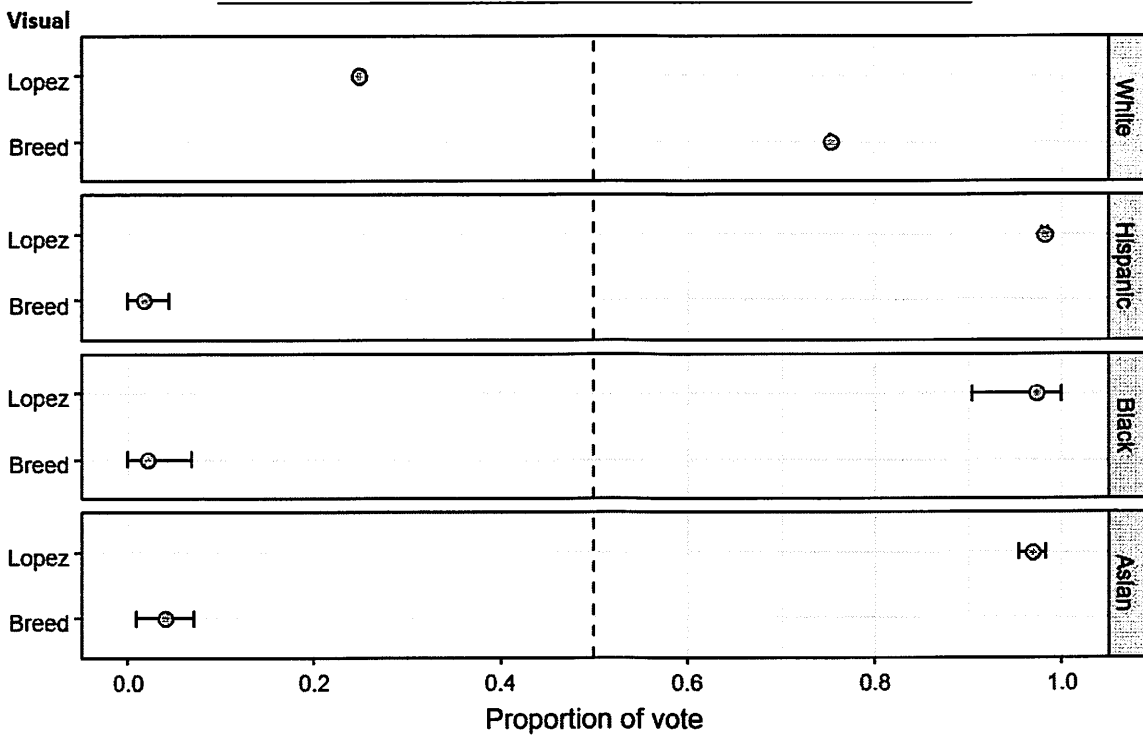
2021 SBISD Trustee Election

There were elections for two trustee positions in 2021. The contested election was between between Elizondo and Earnest. Casear ran unupposed for re-election.

The descriptive plots and correlations show that the degee of racially-polarized voting in the contest between Elizondo and Earnest was significant. On average, Earnest garnered 66% of White voters' support compared to only 34% for Elizondo. Elizondo's estimated proportion of the Hispanic vote was 92.5% compared to only 5.7% for Earnest. The confidence intervals show these estimates to be statistically significant.

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2021 Spring Branch Ecological Inference Report

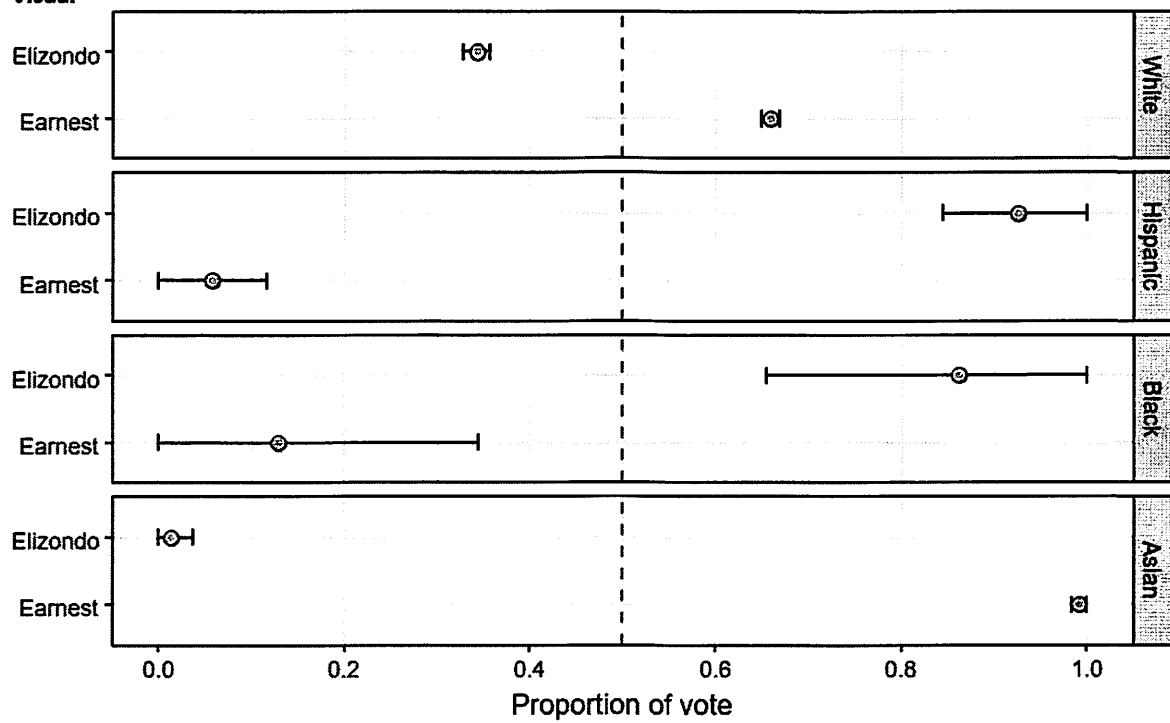**Elizondo vs. Earnest**

Descriptive Analyses
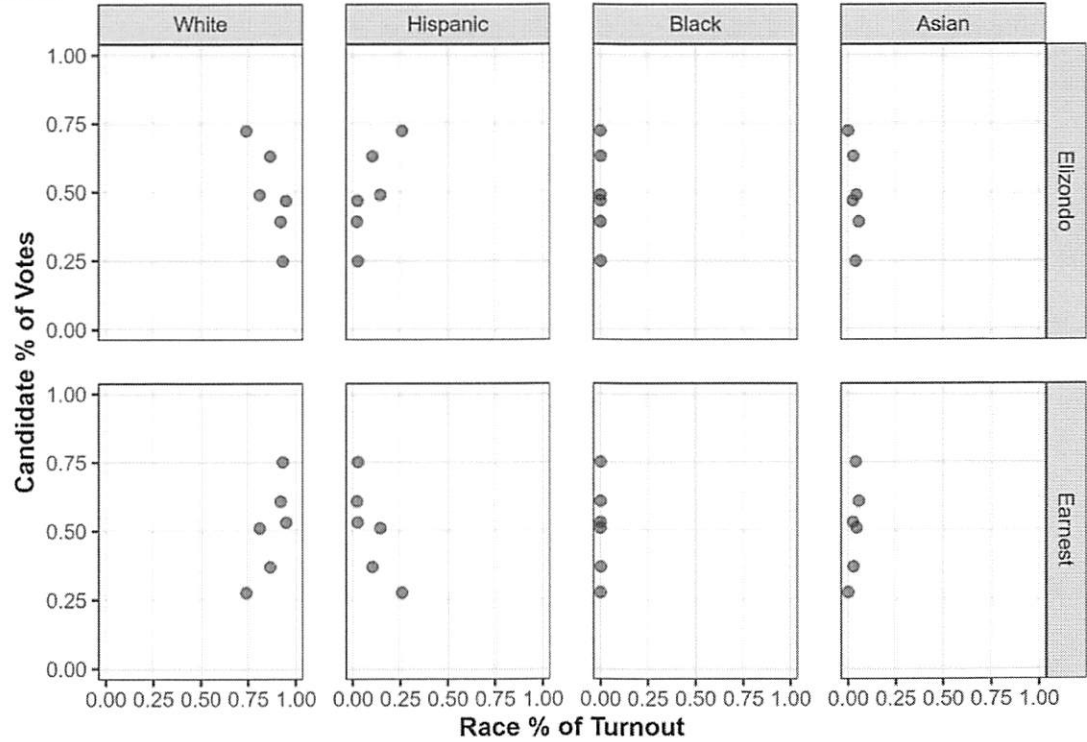
Visual

Correlation

Table 1: Correlation Between Vote Share and Racial Composition

	White	Hispanic	Black	Asian
Elizondo	-0.7628	0.8115	0.1043	-0.7402
Earnest	0.7628	-0.8115	-0.1043	0.7402

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	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	34.28	1.45	32.89	37.26
Earnest	65.93	0.92	63.79	67.10
Table 3: Estimated Proportion Hispanic Vote for Each Candidate				
	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	92.52	8.08	73.63	99.95
Earnest	5.74	5.97	0.04	19.20

Visual

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	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	34.28	1.45	32.89	37.26
Earnest	65.93	0.92	63.79	67.10

Table 3: Estimated Proportion Hispanic Vote for Each Candidate

	Mean	Standard Deviation	95% Lower CI	95% High CI
Elizondo	92.52	8.08	73.63	99.95
Earnest	5.74	5.97	0.04	19.20

Visual

Summary of findings

I conducted EI analysis of racially-polarized voting for 10 SBISD trustee elections. Six elections were contested and four were uncontested. My findings show that five of the six contested trustee elections exhibit significant racially-polarized voting among Hispanic and White voters. One contested election demonstrates modest racially-polarized voting. Only one of the four uncontested trustee elections exhibited significant racially-polarized voting; the other two uncontested elections did not reflect significant evidence of racial polarized voting. These findings confirm and corroborate those reported in my January 20, 2022 report.

I state under penalty of perjury that the foregoing is true and correct.

Executed on March 28, 2022.

robert stein

Robert M. Stein

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